

DHS Science and Technology Directorate

Response and Defeat Operations Support

REDOPS aims at neutralizing improvised explosive devices

Detecting improvised explosive devices (IEDs) is crucial to protecting lives and property. So is neutralizing these devices when they are discovered. While detection technologies and strategies have received considerable attention, until recently the homeland security enterprise lacked an integrated program for developing the countermeasures public safety bomb squads (PSBS) can use to safely and efficiently dispose of IEDs. Response and Defeat Operations Support (REDOPS) is that integrated program.

Technologies and training for defeating IEDs

REDOPS is a Department of Homeland Security Science and Technology Directorate (S&T) effort that supports domestic bomb squads. REDOPS provides a collaborative structure for addressing three capability gaps identified by the National Bomb Squad Commander's Advisory Board (NBSCAB) in its 2011 Strategic Plan: 1) countering Vehicle Borne Improvised Explosive Devices (VBIED), 2) developing and fielding Electronic Countermeasures (ECM), and 3) developing response capabilities against Waterborne IEDs and Person-Borne IEDs (PBIED).

A three-pronged effort

REDOPS' overarching goals are to make PSBS technicians both safer and more effective in IED response operations. REDOPS balances developing new technologies with improving operational procedures and training. Specifically, REDOPS pursues:

- *Capability Integration.* REDOPS assesses emerging technologies, emphasizing the compatibility of these new technologies with fielded ECM systems. It also evaluates procedures used by bomb squads in IED response operations and catalogs lessons learned for incorporation into the Federal Bureau of Investigation (FBI) training efforts.
- *Robotic Capabilities.* REDOPS modifies and upgrades existing tools for VBIED and PBIED response to increase their interoperability with robotic systems. The program develops new capabilities for monitoring and controlling sensors over existing robotic communications channels. It also helps stakeholders identify what performance and

training standards are needed and, in coordination with the S&T Test & Evaluation and Standards Office, initiates development of those standards and related testing and evaluation protocols.

- *Protective Systems.* REDOPS investigates the best ways to integrate self-contained breathing apparatuses into the next generation of bomb suits, enabling bomb technicians to work in toxic environments. It is also conducting a pilot program to evaluate ECM systems currently used in cities across the country with the goal of guiding efforts to modify Department of Defense (DoD) ECM systems to meet civilian requirements and perhaps adapting surplus DoD ECM equipment for use by



A bomb-suited PSBS technician prepares to disable an IED.
(Robert Ausura)

PSBSs.

A collaborative effort

REDOPS draws on expertise from all levels of the IED response community. Through the DHS Office for Bombing Prevention and the S&T Explosives Division, REDOPS collaborates with NBSCAB and community bomb squads from Las Vegas Fire and Rescue, the Michigan State Police, and the Fairfax County (VA) Police Department. National-level collaborators include the FBI, the interagency Joint Program Office for Countering IEDs, the ECM Steering Group, the DoD Defense Threat Reduction Agency, and the DoD Technical Support Working Group.



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